GOVERNMENT OF ANDHRA PRADESH

ABSTRACT

Infrastructure & Investments Department– AP Maritime Board- Formulation of Guidelines for survey, certification and operation of existing Inland Vessels operating in sheltered waters – Further Guidelines –Issued.

INFRASTRUCTURE & INVESTMENT (PORTS) DEPARTMENT

G.O.MS.No. 15 Dated: 21-12-2020.

Read the following:

1. G.O.Ms. No.26 I&I (Ports-I) Dept., 8-11-2017.
2. G.O.Ms.No.14, I&I (Ports-2) Dept. dated 08-06-2018.
3. G.O.Ms.No.10, I&I Department dated 17-1-2020.
4. From CEO, APMB Letter No.CEO/D2/3394/2017, dt.12-06-2020 addressed to IMU.
5. From CEO,APMB Lr.No.CEO/D2/3394/2017, dt:02-09-2020.
6. G.O.Ms.No.10, I&I Department, dated 08-9-2020.
7. From CEO,APMB Lr.No.CEO/D2/3394/2017, dt:01-12-2020

& & &

ORDER:

In the GO 6th read above, Government have issued orders exempting the existing inland passenger/cargo vessels operating in sheltered waters (rivers, lakes, canals and reservoirs etc.) from application of Andhra Pradesh Inland Vessel Rules, 2017 invoking the powers conferred under rule 1.3.1 of the said rules and permitted to adopt the Guidelines prepared by Indian Maritime University, Visakhapatnam Campus, for Survey, Certification and Operation of existing Inland Passenger Vessels operating in Sheltered Waters.

2. In the reference 7th read above, the Chief Executive Officer, AP Maritime Board has stated that the Sand Boats, Pontoon type passenger and cargo boats are also similarly operating in the sheltered waters and therefore it is necessary to formulate guidelines for these vessels since they do not ply in sea waters, and ply in sheltered waters only and therefore do not require the same standards as that of the vessels to possess sailing in the sea waters as such.

3. An expert body Indian Maritime University (IMU) who has been consulted to render technical support & knowledge sharing in the maritime issues with the Andhra Pradesh Maritime Board and to guide in formulating the standards to meet the requirements for the existing operating vessels have submitted the following Guidelines as Part-C and Part-D in continuation to the guidelines already issued in G.O 6th read above.:

C) Supplement Guidelines to Go MS 10 of 8th September 2020 & Guidelines for Survey, Certification and Operation of Existing Pontoon Type passenger & Cargo Vessels Operating in Sheltered Waters.

D) Guidelines for Survey, Certification and Operation of Existing Boats Carrying Sand and Operating in Sheltered Waters

4. The Chief Executive Officer, AP Maritime Board has also stated that the matter has been examined in consultation with the committee appointed for the purpose and submitted the guidelines for approval of government.

5. The Chief Executive Officer, AP Maritime Board has stated that it is necessary to issue further guidelines to enable the operations of Existing Passenger, Pontoon Type Vessels, Boats Carrying Sand, Cargo vessels operating in sheltered waters (rivers, lakes, canals and reservoirs etc.,)to maintain the standards and specifications as indicated there under, in continuation of the guidelines issued in the GO 6th read above.

6. Government after careful examination of the matter as recommended by of Chief Executive Officer, AP Maritime Board, hereby exempt the existing inland passenger/cargo vessels including Sand boats & Pontoon type vessels operating in sheltered waters (rivers, lakes, canals and reservoirs etc.) from application of Andhra Pradesh Inland Vessel Rules, 2017 invoking the powers conferred under rule 1.3.1. of the said rules and permit to adopt the Guidelines prepared by Indian Maritime University, Visakhapatnam Campus, for Survey, Certification and Operation of existing Inland Passenger Vessels, Cargo/Sand Boats, Pontoon boats vessels operating in Sheltered Waters which are appended hereto as ANNEXURE's, with immediate effect.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

R. KARIKAL VALAVEN
SPECIAL CHIEF SECRETARY TO GOVERNMENT

To
The Chief Executive Officer, A.P. Maritime Board, Kakinada.
The Registrar, Indian Maritime University,
Visakhapatnam campus, Visakhapatnam
Copy to:
The Special Chief Secretary to Govt.,
Water Resources Department, A.P. Secretariat, Velagapudi.
The Special Chief Secretary to Govt., YAT & C Department, A.P. Secretariat, Velagapudi
The OSD to Secretary to Hon'ble C.M.
The OSD to Hon'ble Minster for Tourism for information
The OSD to Hon'ble Minister for Industries, Investments& Infrastructure for information.
The Managing Director, APTDC for information and necessary action
PS to Spl.CS to Govt.

//FORWARDED BY ORDER//

SECTION OFFICER

PART C

Supplemental Guidelines to the guidelines issued in Go.MS.No. 10 I&I Dept Dtd: 8th September 2020

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Guidelines for Survey, Certification and Operation of Existing Pontoon Type passenger & Cargo Vessels Operating in Sheltered Waters

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1 Background:

At the request of AP Maritime Board IMU has prepared interim guidelines for survey, certification and operation of inland passenger vessels operating in sheltered waters where the significant wave height is not likely to exceed 0.3 m[1]. These guidelines were issued as GOM's No 10 dated 8th September 2020. The types of boats covered in the order cited above were only self-propelled passenger vessels.

There are some boats which are operating in the sheltered waters of the state which are of pontoon type (having a Block Coefficient of 0.9 and above), which are used as floating jetties or even fitted with propulsion and used to carry deck cargo and /or passengers for a short distance across canals where the time for travel does not normally exceed 20 minutes.

In order to quickly assess these types of boats for the purpose of survey and certification the following guidelines are prepared to establish some minimum safety standards for operation till the guidelines issued as GO 26 are revised.

The guidelines given in GOM order No 10 dated 8th September 2020 had two parts

1. **Part A:** Analysis of Zones as defined in AP IV rules (GO26) and putting forward an argument for establishing Zone 4 with 0.3 m as the maximum significant wave height or in other words sheltered waters.

2. **Part B:** Some important guidelines for Passenger vessels operating in sheltered waters. This has been notified as GO MS No 10 dated 8th September 2020.

This document includes amendments to **Part B** and a new **Part C**, which covers the requirements for pontoon type boats operating in sheltered waters.

2 DISCLAIMER

These guidelines are intended to establish some minimum standards of safety for the exiting boats operating in sheltered inland waters such as rivers, lakes and reservoirs of the state of AP. These guidelines are also based to a large extent on standards available and practices followed elsewhere. The purpose of these guidelines is to facilitate certification for those boats complying with these minimum standards. These guidelines do not guarantee absolute safety

[1] ISO 12217/12215 definition of sheltered waters.

at all times. The owner and the master of the vessel shall be responsible for safe operation of the boat taking into the environmental conditions, currents, wind & weather, and application of principles of good seamanship and engineering judgment so as to achieve safety in operations and protection of the environment. IMU is not responsible for any accidents /loss of life arising out of application of these guidelines.

3 Review

These guidelines must be reviewed as and when possible but at least annually based on the experience gained out of the implementation and modified if necessary.

Supplements to Part B

The Supplements to existing Part B of GO.MS. No.10-Dated 8th September 2020 are as follows.

Sections 2.2 is amplified as under for better clarity.

"2.2 Stiffeners

Adequate stiffeners are to be provided at normal and web frames. As a minimum, the section modulus of stiffeners subjected to lateral pressure is not be less than the calculated section modulus as indicated in Schedule VI / Part A /Chapter 3/ Section 4.3 of GO 26 excluding corrosion allowances and m = 8 in general."

Sections 2.3 is introduced to cover Wooden and FRP structured Boats.

2.3 Wooden and FRP Structure: - In so far as FRP/Wooden material boats, for the passenger vessels (1) Visual inspection of the hull to see if any deformation has occurred. Any major deformation will need to be rectified. Annual inspection of structure may be required. (2) Stiffeners should be examined and if necessary repairs/additional stiffening to be undertaken. (3) Freeboard and stability may be checked as per existing interim guidelines. Swamp test may be conducted for open boats.

Section "10 Manning" is Replaced amplifying the existing one.

(a) While the manning requirements are specified in Chapter 4 of GO 26, the existing boats were operated with personnel with certificates issued by irrigation department. These operators will need to be reassessed and be issued a COC in accordance with GO 26. An up-gradation course framework will need to be developed for issuing the COC's. This will

take some time and till such a time the existing experienced personnel with Irrigation department and port department Licenses can be permitted to operate the boats as follows:

(b) Passenger boats: For Ac Boats where engine controls are at the helm then – 1tindal cum driver or 1 serang and 3 helpers.

(c) For Ac Boats where engine controls are in Engine Room then 1 Serang / Tindal, 1 Driver and 3 Helpers

(d) Launches: 1 Serang, 1 Driver and 2 helpers

(e) All the crew should have at least 2 years' experience in the operation of these boats. Crew experience must be verified by the old endorsements done by the irrigation department on the certificates.

A new section 11 Minimum Plans to be Prepared is Introduced Specifying the required Plans to be submitted.

The following are the minimum plans and documentation to be submitted for approval of the administration

1) General Arrangement plan
2) Structural plans-Midship Section and Profile & Deck plan, Watertight bulk heads (for steel vessels)/ Visual examination report for FRP/ Wooden structure
3) Visual inspection report
4) LSA & FFA Safety plan
5) Tonnage plan
6) Stability proof test report.
7) Detailed calculation on determining maximum passengers to be carried.
8) Freeboard marking plan.
9) Navigation and communication equipment checklist"

Part C

This part gives the necessary guidelines taking into account the relevant standards adopted in similar situations elsewhere and which may be applied to the existing boats enabling their operation with or without additional constraints with the aim of establishing minimum standards for safety of the boat, its passengers and cargo

Note: These guidelines needs to be replaced with new or additional requirements after the data is generated for each boat.

Docking of each vessel plying in rivers, lakes and reservoirs is to be carried out within Two years for measurement of accurate dimensions and lines plan, and for physical inspection of underwater areas and thickness measurements. This will allow evaluation of stability and strength aspects of each boat before finalizing the requirements for this category of boats. The requirement of docking must be assessed by the Registering Authority and the two years'

time can be given based on the condition of the vessel/Boat .The Docking time can be reduced if the condition of the boat hull is not .

1 Applicability

a) Clause 1.3.1 (a) of GO 26 states that vessels or classes of vessels operating on navigable waterways as designated by the Government, where it considers that the sheltered nature and conditions of such operations are such as to render the application of any specific provisions of the Rules unreasonable or unnecessary.

b) There are a number of boats operating in rivers, lakes and canals in the state of AP. These boats operate in sheltered waters where under normal operating conditions the average wind speed is less than Beaufort 4 (5.6 to 7.8 m/s). Under such circumstances the significant wave height is likely to be 0.3 m with the maximum wave height being around 0.5 m. These guidelines are pertaining to these limiting environmental conditions. It is emphasised that operations must be stopped in case the conditions exceed Beaufort 4.

c) It is assumed that by sheltered waters it is understand as waters, or areas of a body of water, within which the conditions are such that it is appropriate to apply some basic standards of safety to existing vessels operating thereon.

d) For existing vessels, the operator should be able to demonstrate a recent history of safe operation in a similar or more onerous operating category by this vessel or a vessel of similar construction

e) These guidelines are to be applied on steel self-propelled pontoons of welded construction plying in rivers, lakes and reservoirs of State of Andhra Pradesh only. A pontoon[2] is considered to be normally:
   1. Non-self-propelled. However, for the purpose of these guidelines self-propelled pontoons are also included where the voyage time does not exceed 20 minutes in sheltered waters and a wind speed not exceeding Beaufort 4.
   2. Carrying only deck cargo and / or standing passengers
   3. Having a block coefficient of 0.9 or greater;
   4. Having a breadth/depth ratio greater than 3. However considering that these pontoons are operating in sheltered waters the Administration may consider relaxing this condition upto 2.85.
   5. No hatchways for carriage of cargo in the deck except manholes closed with gasketed covers.

f) In case a boat is unable to meet any of the requirements as indicated in

[2] Adapted from IMO IS code (2008)

these guidelines, modifications will need to be carried out at the earliest but not later than 1 year form the date of promulgation of these guidelines.

2 Structure

Many of the boats have been in operation for a number of years. These guidelines incorporate minimum checks to be ensured for allowing them to operate further.

2.1 Plating:

The minimum thickness of plating is to be as per Schedule VI /Part A of GO 26 (APMB inland vessel rules 2017) as amended excluding corrosion allowances. In addition to the above, where vehicles are being carried, minimum plate thickness for deck shall meet the requirements of wheel loading pressure as indicated in schedule VI/ Part A/ Chapter 8/ Section 6.3.

Rubber tire fenders or equivalent are to be placed around the hull to minimise damage to the hull plating at the time of berthing.

2.2 Stiffeners

Adequate stiffeners are to be provided at normal and web frames. As a minimum the section modulus of stiffeners subjected to lateral pressure is not be less than the calculated section modulus as indicated in Schedule VI / Part A /Chapter 3/ Section 4.3 of GO 26 excluding corrosion allowances and
m = 8 in general
m = 6, for bottom where they are supported by the pillars.

3 Subdivision

For self-propelled pontoons carrying passengers, the subdivision requirements are generally associated with compliance with damage stability requirements. For existing vessels, it is not known if they would meet even one compartment-flooding criterion. While effort should be made to assess each boat with respect to its stability in the damaged condition the following may be applied:

a) Ideally, a collision bulkhead should be positioned at a distance of 0.04L to 0.04L+2, [m], measured from the forward perpendicular in the load waterline plane.

b) An aft-peak bulkhead must be provided at a suitable distance from the stern where the vessel length exceeds 25 m in such a way that the

buoyancy of the laden vessel is ensured, with a residual safety clearance of 100 mm if water enters the watertight compartment aft of the aft peak bulkhead. As a general rule, the requirement referred to may be considered to have been met if the aft peak bulkhead has been installed at a distance of between 1,4 m and 0,04L + 2 measured from the aft point of the intersection of the hull with the maximum draught line.

c) Compliance with paragraph a) above may be considered as demonstrated if the watertight bulkheads are located in accordance with Annexure 1 of GO No 10 dated 8th September 2020.

d) If the existing vessels do not meet the criterion as above, the following guidance can be applied[3]:

Length	Machinery Aft	Machinery Elsewhere
< 30m	3	3
>30	3	4

4 Freeboard

4.1 Minimum Freeboard

a) The minimum freeboard shall not be less than 500 mm.
b) Where the minimum freeboard of a loaded vessel occurs abaft a point 75% of the length of the vessel from the foreside of the foremost part of the vessel, excluding guardrails, the minimum freeboard shall be taken to be the freeboard measured at the 75% of the length point.
c) The Administration may accept a lesser value of freeboard where the construction or the type of vessel makes it impracticable to achieve the above freeboard calculated as above.
d) The freeboard shall be taken as the vertical distance between the waterline at which the vessel is floating with maximum load on board and shall be measured to the top of the weather deck at the side of the vessel.

4.2 Loading Marks

a) Vessels shall have permanent loading marks placed on each side amidships to indicate the maximum allowable draft corresponding to the minimum freeboard determined according to 4.1.

b) Such a loading mark shall be a horizontal line of at least 300mm amidships and 25mm in height, with its upper edge passing through the point of maximum draft. The loading mark shall be painted in a contrasting colour to the side shell paint.

[3] Section 1B, Chapter 5, Part B of GO26

c) Draft marks if not present are to be marked during the dry-docking of the vessel.

4.3 Loading of vessels

The loading marks of a vessel shall not be submerged at any time when it departs on a voyage, during a voyage or on arrival.

5 General requirements relating to intact stability

In general, intact and damage stability requirements are verified by calculation and an inclining experiment. The hydrostatic particulars are required for performing such calculations.

5.1 Stability drawings and calculations

The following information is typical of that required to be submitted to the Administration for approval:

1 Lines drawing;
2 Hydrostatic curves;
3 Cross curves of stability;
4 Report of draught and density readings and calculation of lightship displacement and longitudinal centre of gravity;
5 Statement of justification of assumed vertical centre of gravity; and
6 Simplified stability guidance such as a loading diagram, so that the pontoon may be loaded in compliance with the stability criteria.

5.2 Concerning the performance of calculations

The following guidance is suggested:

1 No account should be taken of the buoyancy of deck cargo (except buoyancy credit for adequately secured timber);
2 Consideration should be given to such factors as water absorption (e.g., timber), trapped water in cargo (e.g., pipes).
3 In performing wind heel calculations:
   a. The wind pressure should be constant and for general operations be considered to act on a solid mass extending over the length of the cargo deck and to an assumed height above the deck;
   b. The centre of gravity of the cargo should be assumed at a point mid-height of the cargo; and
   c. The wind lever should be taken from the centre of the deck cargo to a point at one half the mean draught;
4 Calculations should be performed covering the full range of operating draughts; and

5 The down-flooding angle should be taken as the angle at which an opening through which progressive flooding may take place is immersed. This would not be an opening closed by a watertight manhole cover or a vent fitted with an automatic closure.

5.3 Intact stability criteria

1 Initial Metacentric Height must not be less than 0.35[4] m
2 The area under the righting lever curve up to the angle of maximum righting lever should not be less than 0.08 metre-radians[5].
3 The static angle of heel due to a uniformly distributed wind load of 168 *Pa*[6] should not exceed an angle corresponding to half the freeboard for the relevant loading condition, where the lever of wind heeling moment is measured from the centroid of the windage area to half the draught.
4 The minimum range of stability should be 20°[7].

5.4 Inclining Experiment

An inclining experiment is not normally required for a pontoon, provided a conservative value of the lightship vertical centre of gravity (KG) is assumed for the stability calculations. The KG can be assumed at the level of the main deck although it is recognized that a lesser value could be acceptable if fully documented. The lightship displacement and longitudinal centre of gravity should be determined by calculation based on draught and density readings.

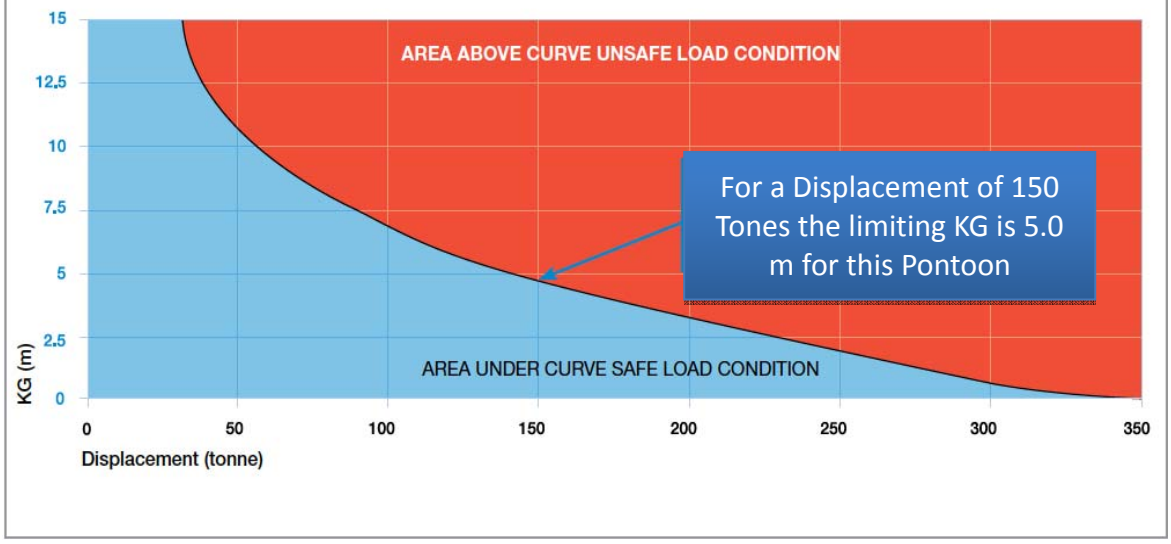
[4] IMO-safety regulations for vessels operating in Inland waters
[5] Section 2.2.4 of IS Code 2008 for pontoons.
[6] MSN 1823
[7] Section 2.2.4 of IS Code 2008 for pontoons.

6 Guidance information to the Master/Vessel operator

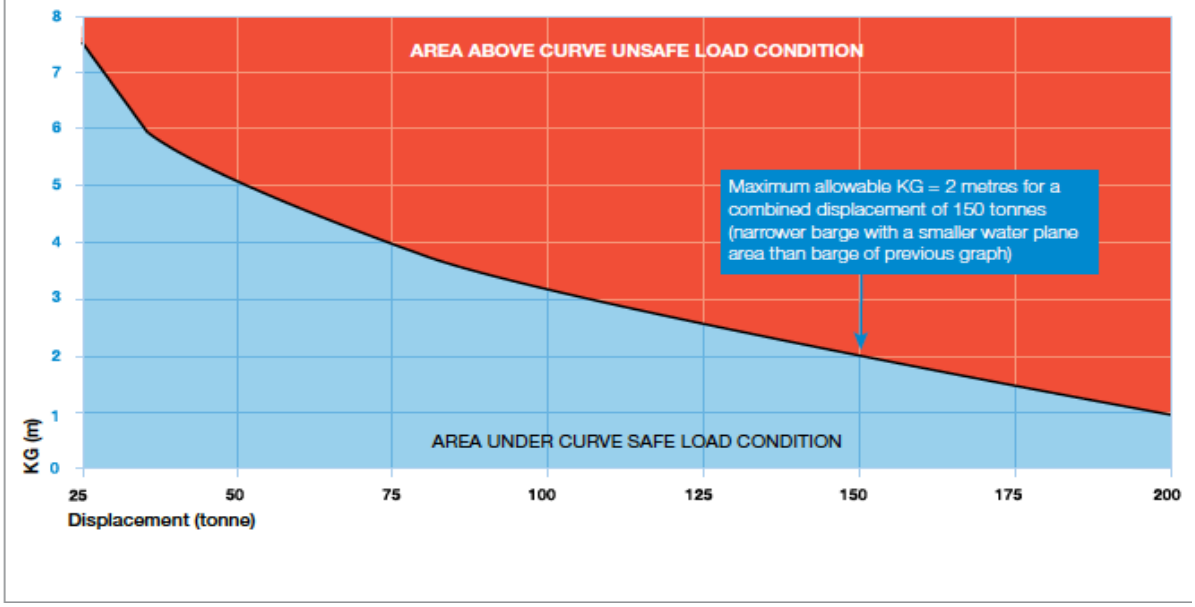
6.1 Limiting KG

The simplified stability information as required under S.No 6 of section 5.1 above may be presented in the form a of limiting KG curve as shown below:

Example of a pontoon of length 24 m and beam 8 m



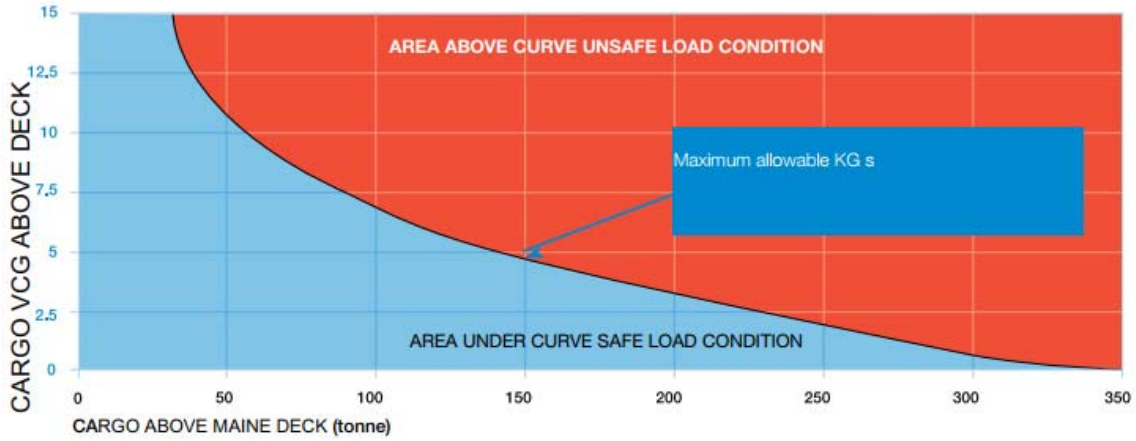
Example of a similar barge as indicated above of length 24 m and beam



The limiting KG curve has safety margins built in. these margins are achieved using the recommended minimum values as indicated in 5.3 above and a minimum freeboard of 500 mm.

After arriving at the limiting KG curves as indicated above, for propelled pontoons where the voyage is around 20 minutes, the limiting cargo KG can also be shown the DECK CARGO LOAD vs the VCG of Cargo above main Deck. The cargo limiting KG curve is used, in conjunction with the CARGO KG and loaded CARGO to establish whether the loaded condition is safe.

The limiting KG curve such as the one shown below enables the master/ operator to establish how much cargo can safely be carried, for a known Cargo KG. As can be seen form the graph, the area under the curve is a safe loading condition. The area above the curve is unsafe.



6.2 Initial Heel

Cargo should be loaded on the deck such that there is no visible heel. All wheeled and / or heavy cargo must be loaded as near as possible to the longitudinal centreline or symmetric about the centreline such that there is no initial heel.

6.3 Voyage commencement

The vessel shall commence its voyage only after the meeting the conditions of limiting KG and initial heel.

7 Watertight and weather tight integrity.

1 All manholes and hatches on the Main deck are to be made Weather tight/watertight as applicable.

2 In general all openings and closing appliances, ventilators, air pipes and discharges shall be in accordance with Chapter 11 of Part A of Schedule VI of GO 26.

3 Air pipes and sounding pipes to be fitted to all tanks and void spaces.

4 Adequate protection must be given to engine casings as far as possible to prevent water from entering the engine room space from deck at least during non-operating periods.

5 A suitable arrangement is to be made for pumping out water from void spaces either by a fixed bilge pumping system or by a portable engine driven /hand pump with flexible hoses.

6 Practice is to be made by the operator to take the soundings and ensure that there is no liquid in the tanks before the starting of the voyage.

7 Engine exhaust penetrating the hull below waterline is not permitted. Exhaust shall be taken above the main deck at a minimum distance of 1000 mm above main deck.

8 fire fighting appliances.

The following provisions are considered as suitable for existing propelled and non-propelled pontoons operating in rivers, lakes, reservoirs etc. instead of rules framed under part C of GO 26.

Length	**Extinguisher Type**
Less than 16 m	1x 9 liter Mechanical foam 1x 5 kg dry powder
16 m and above	2x 9 liter Mechanical foam 2x 5 kg dry powder

The master's of all inland vessels shall ensure that the vessel is provided with appliances and equipment for fire fighting and for protection from danger or explosion in accordance with these rules and that the crew of the vessel are well conversant with the use of theses appliances.

The surveyor may suggest any additional requirements depending the nature and arrangement of the machinery and systems.

8.1 Approval of competent authority

If in any case the inland vessel is unable to comply fully with the requirements set out as above, and for vessels exceeding 45m in length, Or

150 ton gross, the appliances to be provided are to be referred to the competent officer for approval.

9 Life Saving Appliances

9.1 Buoyant Apparatus

The provision of buoyant apparatus or lifebuoys is to provide some temporary support for those persons who may enter the water because they were unable to successfully take advantage of the dry-shore evacuation facilities if available. In this event, buoyant apparatus would give those passengers in the water something to hold on to until they could transfer to a life raft or until assistance arrives.

9.2 Personal Life-saving appliances

Personal life saving appliances hall be provided to protect all persons on board should they be required to abandon the ship. Life-saving appliances shall also be provided that will enable the ship's crew to contact emergency services in an emergency situation.

9.3 Summary

a) Life-saving appliances and equipment shall be provided in accordance with table below.

S.NO	REQUIREMENT	ACTUAL	REMARKS
1	Life Saving Appliances Plan OR Safety Equipment Plan	Physical Inspection	Record of LSA equipment may be maintained
2	One life jacket each for 60 passengers.	YES	Limited to Maximum 60.
3	One life jacket / person for crew on board.	YES	
4	At least four lifebuoys for vessels up to 25 meter length, six life buoys for vessel 25-45 meter length and 8 life buoys more than 45 meter length. At least two of the life buoys shall be with buoyant line of 30m in length.	YES	
5	Buoyant Apparatus or Life raft	Sufficient number of life rafts or buoyant apparatus to accommodate 100% capacity of passengers and crew on board.	

b) The Administration may approve the fitting and the design and construction of lifeboats, life rafts, open reversible life rafts, flotation devices, buoyant apparatus and lifebuoys as appropriate, depending on the size and service characteristics of vessels and the areas within which they are certificated to undertake voyages, proximity of the proposed routes to rescue facilities and prevailing weather conditions, in order to provide an appropriate level of safety for survivors.

c) Unless otherwise approved by the Administration, vessels 30 m and above in length shall be fitted with life rafts or open reversible inflatable life rafts and vessels less than 30m in length shall be fitted with flotation devices.

d) ORIL provided in compliance with this section shall comply with the requirements of the Annex 11 of the IMO High Speed Craft Code, 2000 as amended, or Non-SOLAS Reversible rafts & any other relevant ORIL standards may be considered on application to the Administration.

10 Navigation & Communication

(a) Propelled pontoon vessels operating in sheltered waters such as rivers, lakes and reservoirs regardless of length, shall carry radio apparatus capable under normal conditions of transmitting and receiving, on frequencies designated by the Administration, over a distance of 50 nautical miles. This apparatus shall consist, at least, of VHF set either fixed or portable operating at least on Channel 16 or a mobile phone may be used as alternate means of communication.

(b) An inclinometer may be installed at the steering station so that the Master/helmsman is aware of the list /heel at all times.

11 Minimum plans to be prepared

The following are the minimum plans and documentation to be submitted for approval of the administration.

1) General arrangement plan
2) Structural Plan.
3) Stability booklet
4) Tonnage booklet
5) Inspection report
6) Record of Fire Fighting Appliances and Life Saving Appliances.

12 Manning

(a) While the manning requirements are specified in Chapter 4 of GO 26, the existing boats were operated with personnel with certificates issued by irrigation department. These operators will need to be reassessed and be issued a COC in accordance with GO 26. An up-gradation course framework will need to be developed for issuing the COC's. This will take some time and till such a time the existing experienced personnel with Irrigation department and port department Licenses can be permitted to operate the boats as follows:

(b) Propelled Pontoons: Tindal cum driver-1, Helpers-3. (OR) Serang -1, Driver -1, Helpers -2. (OR) Serang-1, Helpers -3

(c) All the crew should have at least 2 years' experience in the operation of these boats. Crew experience must be verified by the old endorsements done by the irrigation department on the certificates.

R. KARIKAL VALAVEN
SPECIAL CHIEF SECRETARY TO GOVERNMENT

SECTION OFFICER

PART - D

Guidelines For Survey, Certification And Operation Of Existing Boats Carrying Sand and Operating in Sheltered Waters

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1 Background:

At the request of AP Maritime Board IMU has prepared interim guidelines for survey, certification and operation of inland passenger vessels operating in sheltered waters where the significant wave height is not likely to exceed 0.3 m[8]. These guidelines were issued as GOM's No 10 dated 8th September 2020. The types of boats covered in the order cited above were only self-propelled passenger vessels.

There are some open boats, which are operating in the sheltered waters of the state, which are used to carry river sand picked up by manual or suction pump means (dredging) from the rivers.

In order to quickly assess these types of boats for the purpose of survey and certification the following guidelines are prepared to establish some minimum safety standards for operation till the guidelines issued as GO 26 are revised.

The guidelines given in GO MS order No 10 dated 8th September 2020 had two parts

1. **Part A:** Analysis of Zones as defined in AP IV rules (GO26) and putting forward an argument for establishing Zone 4 with 0.3 m as the maximum significant wave height or in other words sheltered waters.

2. **Part B:** Some important guidelines for Passenger vessels operating in sheltered waters.

Subsequently, the following guidelines were issued

3. **Part C**: Guidelines for propelled and non-propelled pontoon type boats operating in sheltered waters.

This document may be considered as **Part D**, which cover the requirements for cargo boats operating in sheltered waters of length less than 24 Meters.

2 DISCLAIMER

These guidelines are intended to establish some minimum standards of safety for the exiting boats operating in sheltered inland waters such as rivers, lakes and reservoirs of the state of AP. These guidelines are also based to a large extent on standards available and practices followed elsewhere. The purpose of these guidelines is to facilitate certification for those boats complying with

[8] ISO 12217/12215 definition of sheltered waters.

these minimum standards. These guidelines do not guarantee absolute safety at all times. The owner and the master of the vessel shall be responsible for safe operation of the boat taking into the environmental conditions, currents, wind & weather, and application of principles of good seamanship and engineering judgment so as to achieve safety in operations and protection of the environment. IMU is not responsible for any accidents /loss of life arising out of application of these guidelines.

3 Review

These guidelines must be reviewed as and when possible but at least annually based on the experience gained out of the implementation and modified if necessary.

Part D

This part gives the necessary guidelines taking into account the relevant standards adopted in similar situations elsewhere and which may be applied to the existing boats enabling their operation with or without additional constraints with the aim of establishing minimum standards for safety of the boat and cargo

Note: These guidelines needs to be replaced with new or additional requirements after the data is generated for each boat.

Docking of each vessel plying in rivers, lakes and reservoirs is to be carried out within two years for measurement of accurate dimensions and lines plan, and for physical inspection of underwater areas and thickness measurements. This will allow evaluation of stability and strength aspects of each boat before finalizing the requirements for this category of boats. The requirement of docking must be assessed by the Registering Authority and the two years' time can be given based on the condition of the vessel/Boat .The Docking time can be reduced if the condition of the boat hull is not River worthy.

1 Applicability

a) Clause 1.3.1 (a) of GO 26 states that vessels or classes of vessels operating on navigable waterways as designated by the Government, where it considers that the sheltered nature and conditions of such operations are such as to render the application of any specific provisions of the Rules unreasonable or unnecessary.

b) There are a number of boats operating in rivers, lakes and canals in the state of AP. These boats operate in sheltered waters where under normal operating conditions the average wind speed is less than Beaufort 4 (5.6 to 7.8 m/s). Under such circumstances the significant wave height is likely to be 0.3 m with the maximum wave height being around 0.5 m. These guidelines are pertaining to these limiting environmental conditions. It is emphasised that operations must be stopped in case the conditions exceed Beaufort scale 4.

c) It is assumed that by sheltered waters it is understand as waters, or areas of a body of water, within which the conditions are such that it is appropriate to apply some basic standards of safety to existing vessels operating thereon.

d) For existing vessels, the operator should be able to demonstrate a recent history of safe operation in a similar or more onerous operating category by this vessel or a vessel of similar construction.

e) These guidelines are to be applied on self-propelled boats used for the purpose of dredging / carrying sand plying in rivers, lakes and reservoirs of State of Andhra Pradesh and which are less than 24 meters in length.

f) These boats are to be certified for operations in daylight hours in sheltered waters and with a wind force not greater than Beaufort 4. It is the responsibility of the boat operator/Master to suspend operations where higher wind conditions prevails and the boats are to be berthed / moored at a safe place.

g) In case a boat is unable to meet any of the requirements as indicated in these guidelines, modifications will need to be carried out at the earliest but not later than 1 year form the date of promulgation of these guidelines.

2 Structure

Many of the boats have been in operation for a number of years in the sheltered waters. These guidelines incorporate minimum checks to be ensured for allowing them to operate further. In general the structure of these boats have to confirm to ISO 12215 standards or standards of any classification society or equivalent. However for the existing boats the following minimum requirements should be met.

2.1 Steel Structure

a) Side shell plating and bottom plating thickness shall generally confirm to the requirements of Inland vessel rules 2017. Owner has to ensure the same. Other plates in the ship shall not be less than 4 mm. The surveyor based on visual inspection may grant exemption to the same.
b) The proper inspection of complete hull is to be made as a routine practice by the Tindal/driver. Before going on a voyage, when the hold is empty, it is to be thoroughly inspected for any damage and liquid because of leakages.
c) Plates not complying with the above requirements shall be replaced.
d) Rubber tire fenders or equivalent are to be placed around the hull to minimise damage to the hull plating at the time of berthing.
e) Adequate stiffeners are to be provided at normal and web frames. To the extent possible, the section modulus of stiffeners subjected to lateral pressure is not be less than the calculated section modulus as indicated in Schedule VI / Part A /Chapter 3/ Section 4.3 of GO 26 excluding corrosion allowances and m = 8 in general. Where inspection of the stiffeners is not possible due to the construction method employed, the surveyor in such areas may grant exemption after inspection.

2.2 Wooden Structure

The boat is to be inspected physically. Checks for the defects like, cracks, rusting of metal fastener, leakages etc. are to be carried out. Where defective, necessary repairs have to be carried out.

3 Drainage, Sounding and Air pipes, Exhaust.

a) Air and sounding pipes are to be fitted for all the tanks and void spaces.
b) A suitable arrangement is to be made for bilge pumping of void spaces at least by a portable engine driven pump or by a portable hand pump with flexible hoses as required.
c) Practice is to be made by the operator to take the soundings and ensure that there is no liquid in the tanks before the starting of the voyage.
d) Pumps are to be provided for removing the water from the cargo hold. The pumping is to be suitably done by the operator during the loading of cargo.

4 Freeboard

While freeboard is to be ascertained with respect to stability, till such a time as adequate data is collected, the minimum freeboard as mentioned below is to be maintained in all the loading conditions[9].

Length	Minimum Freeboard
Up to 7m	240 mm
Greater than 18m	480 mm

For intermediate length, freeboard values may be interpolated. Load line mark is to be marked on the each side amidships corresponding to the above allowable freeboard.

5 Watertight and weather tight integrity.

1. All manholes and hatches on the Main deck are to be watertight for tanks and void spaces.

2. Notes: The sill height of hatch, air pipes is to be as per Pt.A Ch. 11 of GO Ms. no 26 for zone 3.

6 Life Saving Appliances

6.1 Personal Life-saving appliances

Personal life saving appliances hall be provided to protect all persons on board should they be required to abandon the ship. Life-saving appliances shall also be provided that will enable the ship's crew to contact emergency services in an emergency situation.

6.2 Summary

a) Life-saving appliances and equipment shall be provided in accordance with

[9] Boat safety guidelines, National Disaster Management Authority- September 2017

table below.

S.NO	REQUIREMENT	ACTUAL	REMARKS
1	Life Saving Appliances Plan OR Safety Equipment Plan	Physical Inspection	Record of LSA equipment may be maintained
2	One life jacket / person for crew on board.	YES	
3	At least two life buoys for vessels up to 16mtr and four lifebuoys for vessels up to 24-meter length, At least one of the life buoys shall be with buoyant line of 30m in length up to 16mtrs and two for above 16mtrs.	YES	

7 Fire Fighting Appliances.

The following provisions are considered as suitable for existing inland-propelled boats carrying sand and operating in rivers, lakes, reservoirs etc. instead of rules framed under part C of GO 26.These requirements are to be applied in Machinery spaces and navigation control station.

Length	Extinguisher Type
Less than 16 m	1x 9 liter Mechanical foam 1x 5 kg dry powder
16 m and above	2x 9 liter Mechanical foam 2x 5 kg dry powder

The surveyor may suggest any additional requirements depending the nature and arrangement of the machinery and systems.

8 Navigation & Communication

(a) Vessels operating in sheltered waters such as rivers, lakes and reservoirs regardless of length shall carry radio apparatus capable under normal conditions of transmitting and receiving, on frequencies designated by the Administration, over a distance of 50 nautical miles. This apparatus shall consist, at least, of VHF set either fixed or portable operating at least on Channel 16 or a **Mobile Phone** may be used as alternate means of communication.

(b) An inclinometer may be installed at the steering station so that the Master/helmsman is aware of the list /heel at all times.

9 Minimum plans to be prepared

For Boats above 16mtrs in length, the following are the minimum plans and documentation to be submitted for approval of the administration

1) General arrangement plan
2) Structural Plan (for steel Boats) giving details of plating and any other structural elements as possible taking into consideration the construction of the boat
3) Tonnage booklet
4) Inspection report
5) Record of Fire Fighting Appliances and Life Saving Appliances.

10 Manning

10.1 Boats above 16mtrs in length

(a) While the manning requirements are specified in Chapter 4 of GO 26, the existing boats were operated with personnel with certificates issued by irrigation department. These operators will need to be reassessed and be issued a COC in accordance with GO 26. An up gradation course framework will need to be developed for issuing the COC's. This will take some time and till such a time the existing experienced personnel with Irrigation department and port department Licenses can be permitted to operate the boats as follows:

(b) Tindal cum driver-1, Helpers-3. (OR) Serang -1,Driver -1, Helpers -2. (OR) Serang-1, Helpers -3

(c) All the crew should have at least 2 years experience in the operation of these boats. Crew experience must be verified by the old endorsements done by the irrigation department on the certificates.

10.2 For boats below 16mtrs in length

a) As per existing practice all the crew working in the Wooden boats are operating the boat and also carries out the cargo lifting of sand from the river bed and these operators /Crew working in wooden boats below 16mtr length doesn't have any Tindal or Drivers license. Appropriate coursework and assessment is being framed to issue certificates to the boat drivers. Till such time experienced drivers must be allowed to operate by taking undertaking about their experience.(Only for wooden Sand Boats).

R. KARIKAL VALAVEN
SPECIAL CHIEF SECRETARY TO GOVERNMENT

SECTION OFFICER

ANNEXURE-1

CERTIFICATE OF REGISTRY
ANDHRA PRADESH MARITIME BOARD

Place of Registry: Machilipatnam / Kakinada Registration No:

This is to certify that the registration requested for Passenger/sand /Pontoon/Cargo Boat " " has been approved by this office. Therefore, ANDHRA PRADESH Maritime Board hereby grants and authorizes Certificate of Registry to the water sport craft whose particulars are given below.

Particulars

Name of the Vessel			
Owner's Name			
Owner's Address			
Previous Name of Craft/ Previous Owner Name		**Previous Registration Number**	
Year of Built		**Place of Built**	
Length overall (Mtrs)		**L.B.P. Mtrs**	
Breadth of vessel, (Mtrs)		**Material of Construction**	
Depth of vessel (Mtrs)		**Loaded Draft**	
GT/NT		**Type of Vessel**	
Engine Particulars (Make/s.no/BhP/Type of Engine/Number of engines)		**Passenger Capacity / Cargo Capacity**	

Other Particulars and Information

REMARKS:

REGISTRAR
ANDHRA PRADESH MARITIME BOARD

NOTE:

1. This certificate of registration to be produced for inspection on demand by any authority authorized by Andhra Pradesh Maritime Board.
2. This certificate must be surrendered to the registration authority if so required by him.
3. While the certificate is in force, the craft name and registration marks as painted approved by Andhra Pradesh Maritime Board must not be removed or defaced.
4. In case of any accident occasioning losses of life or efficiency of the craft either in the hull. Or any part of Machinery a report by letter signed by owner or master is to be forwarded to the nearest police station, local port officer i.e (Registering authority) within 24hours after the happening of accident.
5. This Registry is valid only for vessel authorized by port officer and local administration.
6. All other conditions, rules and regulations of local authorities to be complied at all times.
7. This certificate of registration is valid for designated area of water sports activities by the concerned authorities.
8. Concerned permissions such as mining, ferry service and other relevant permissions from other departments must be obtained to operate in the particular area.
9. Craft ply only in *fair weather season, and in during no floods condition,* and in calm and settled river & Sea conditions and to be operated only in day light hours. Operational limit as per Director general shipping circular No. SS/Misc(37)2003 DTd: September 28,2004 or any other circular updated by them.
10. This Certificate is liable to be withdrawn/suspended if conditions of operation are not complied with.

MARKING OF LETTERS & ALPHABETS:

All crafts should get their names and registration numbers painted/repainted with fluorescent white color over a black background in order to have them clearly visible from the distance even at nighttime. This should be done in the following locations if possible.

(a) Port and Starboard side of the forecastle (Forward side).
(b) At the Centre of the stem.(If possible)
(c) Port and Starboard side at the front of wheel house (if Possible).

Numbers and letters should be in Telugu and English.

ANNEXURE-2

CERTIFICATE OF SURVEY

ANDHRA PRADESH MARITIME BOARD

TO REMAIN IN FORCE UNTILL THE ----------

NAME OF Vessel ----------

NAME OF THE OWNER----------

NAME OF THE OPERATOR: ----------

Place of Registry &	GRT/NRT	Engine Details / Speed	Hull Details	DRAFT	Passenger ,Crew & Cargo

LSA / FFA EQUIPMENT:

DETAILS OF TESTS CARRIED OUT:

VESSEL MEETING THE GUIDELINES PRESCRIBED: YES/NO

LIMITS OF OPERATION:

Note: The validity of this certificate deemed to be expired if insurance of craft & passengers are not valid.

Issued on:

Place of inspection:

CHIEF SURVEYOR

ANDHRAPRADESH MARITIME BOARD

THIS CERTIFICATE WOULD BE DEEMED TO BE SUSPENDED IF SURVEY REQUIREMENTS ARE NOT COMPLIED WITH RULES.

-Either this certificate, or the original/duplicate there of, furnished by the Andhra Pradesh Maritime Board , is to be put up in a conspicuous part of the vessel where it will be visible to all persons on board. For small where it is not possible to display the certificate, the operator must have the same available at the operational location.

-If the number of passengers/cargo carried exceeds the number stated in the certificate, the Operator & Owner shall, be liable to be prosecuted.

-In case of any ACCIDENT occasioning loss of life, or any material damage affecting the seaworthiness or efficiency of the craft, either in the hull or in any part of the machinery or equipment, a report by letter signed by the Owner is to be forwarded to the local police, Port Officer & Andhra Pradesh Maritime Board, within 24 hours after the happening of the accident, or as soon thereafter as possible.

- Any communication addressed to the Andhra Pradesh Maritime Board related to this craft should state the Name, Port of Registry and the Number of this certificate.

ANNEXURE-3

DECLARATION OF SURVEY FOR VESSEL(CARGO/PONTOON)
ANDHRA PRADESH MARITIME BOARD

1. NAME OF WATER VESSEL _____

2. PARTICULARS OF THE CRAFT (PREVIOUS NAME/OWNER) _____

3. TONNAGE G.R.T_____N.R.T _____

LENGTH_____BREADTH_____ DRAFT_____DEPTH_____

4. PLACE AND DATE OF BUILT _____

5. NAME AND ADDRESS OF PRESENT OWNER _____

6. TYPE OF HULL ----------

7. PLACE AND DATE OF THE CRAFT EXAMINATION CARRIED OUT __ __ __ __ __

8. CONDITION OF CRAFT _____

TESTS CARRIED OUT I._ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

2. _

3. _

4. _

5. _

PLACE:

DATE:

REMARKS OF SURVEYOR - FOUND SATISFACTORY/ NOT SATISFACTORY.

OWNER / OWNER'S REPRESENTATIVE **SURVEYOR**